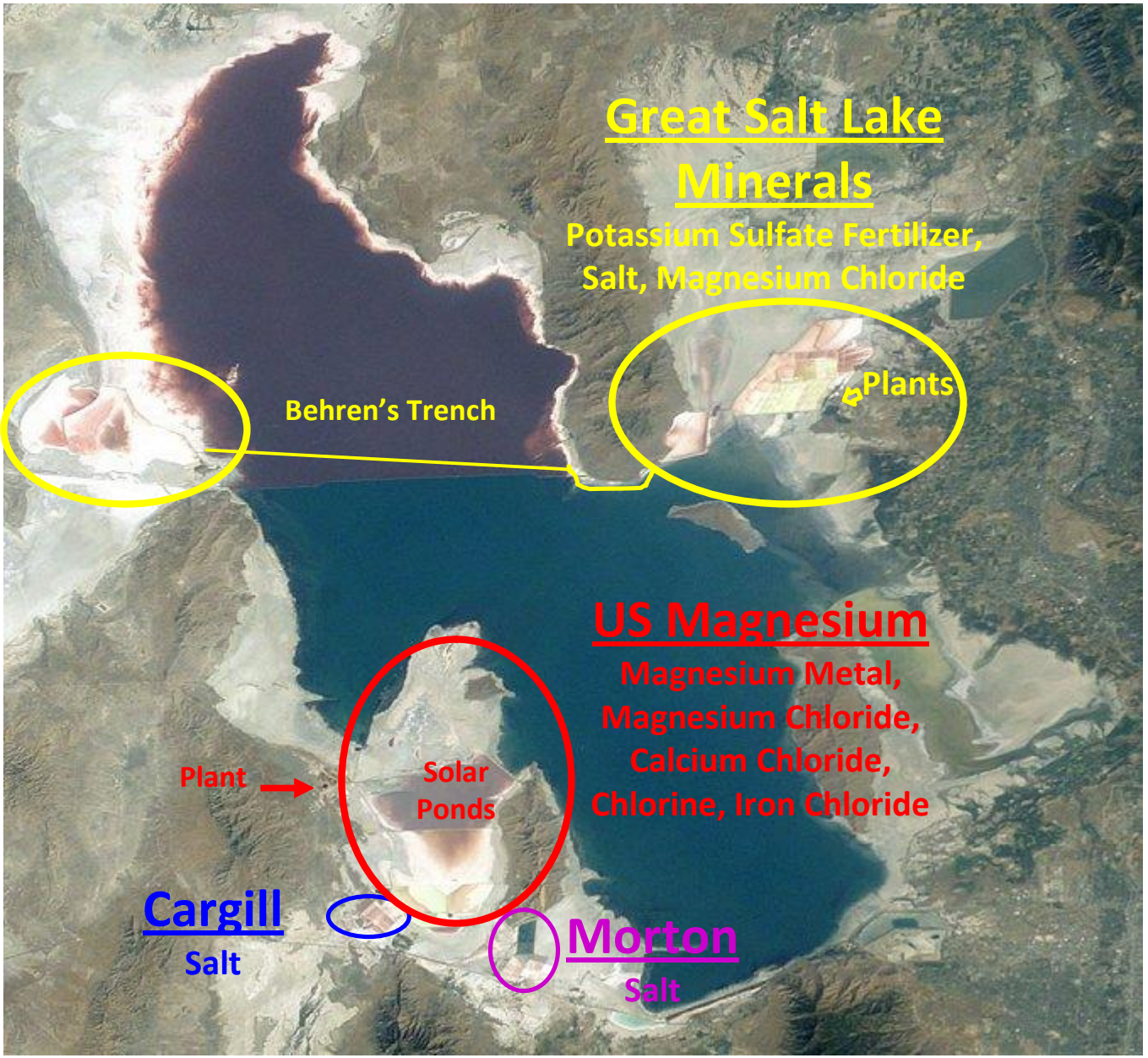
Mineral Extraction on the Great Salt Lake



Mineral Extraction Interests and Activities

- One of the largest industrial solar energy sites in the world.
- Solar energy evaporates water to crystallize raw materials for production of salt, potassium sulfate fertilizer, magnesium chloride, magnesium metal, chlorine, calcium chloride and iron chloride.
- Plants refine products to a marketable quality.
- Ship products by rail and truck, package and bulk.

Mineral Extraction Permits and Approvals

- Water rights to pump from the lake – DNR, Division of Water Rights
- Mineral lease or easement – DNR, Division of Forestry, Fire and State Lands
- Mining plan – DNR, Division of Oil, Gas and Mining
- Air operating permits for dryers and stationary engines – Dept. of Environmental Quality
- Water discharge and storm water runoff permits - Dept. of Environmental Quality
- Discharge permits for dikes, canals or pump stations in the lake – US Army Corps of Engineers

Pressures on the Lake that Affect Mineral Extraction

- Low lake level requires intake pump and canal modifications to feed solar ponds.
- High lake level damages dikes and may require adding elevation to dikes.
- High lake level reduces lake concentration and production.
- High precipitation reduces net evaporation and thus production from the solar ponds.
- Uncertain impact of new water standards.
- Multi-use of existing solar ponds.
- Climate change initiatives that may effect air operating permits.

Opportunities for Improvement for Agency Management or Impacts to Resource

- State agencies that manage the lake need to be consistent and coordinated.
- State and federal agencies need to coordinate.
- Fact based decision making.
- Central library of data and reports about the lake.
- Army Corps of Engineers needs to be staffed to support its regulatory responsibilities for the lake.